

III. REMARKS

Reconsideration of this application is respectfully requested in view of the amendments to the claims and the remarks that follow.

Claim 18 has been amended to more clearly define applicants' invention, and support for these claim amendments can be found, for example, Fig. 3a and in paragraph [0056] of the Specification (all references to the Specification herein being to the numbered paragraphs of the application as published on September 6, 2007 and assigned Pub. No. US 2007/0207366). In addition, currently withdrawn claims 26, 30, and 33 have been similarly amended to more clearly define applicants' invention. New dependent claim 38 has been added to provide adequate coverage for the invention. Support for this claim can be found, for example, in paragraph [0033] of the Specification. No new matter has been introduced by these amendments.

Election/Restriction

The Examiner indicated that the withdrawn claims previously did not have a special technical feature that defined a contribution over the prior art Gibb application Pub. No. 2003/0194595 ("Gibb"). Accordingly, the election requirement has still been deemed proper.

Withdrawn claims 26, 30, and 33 have been amended in a similar fashion as claim 18, so that all of the these claims include common technical features that define over the prior art, including Gibb and the newly cited Funatsu reference. Accordingly, the withdrawal of claims 26 and 28-36 should be reversed and those claims allowed.

Withdrawn Rejections

Applicants note with appreciation that, in response to the previous paper submitted by applicants, the rejection of claims 18 and 20-25 under 35 USC §102 as being anticipated by Gibb has been withdrawn.

Claim Rejections – 35 USC §103

1. Claims 18, 20-25 and 37 have been rejected under 35 USC §103 as being unpatentable over Gibb in view of the Funatsu et al. Publication No. 2002/0168562 ("Funatsu").

With regard to claim 18, it is indicated in the Office Action that Gibb discloses a separator for electrochemical systems (flow field plate assembly, Abstract), comprising: a first conductive plate having a face (plate 18, Fig. 5); and a second conductive plate have a face (plate 17, Fig. 5); wherein each plate includes a series of projections extending outwardly therefrom (see Fig. 5); wherein each of the projections have a corresponding cavity defined on the opposite side thereof; wherein when the faces of the first and second plate are brought into an overlapping relationship, at least a subset of the cavities of the first plate engage a subset of the cavities of the second plate to provide at least one flow path between the first plate and the second plate (inner flow field channel 25, Fig. 5); wherein the cavities of the first plate (24) are dissimilar in shape from the cavities of the second plate (21); and wherein the projections and corresponding cavities on the first plate are discrete and spaced from one another (see Fig. 5).

It is acknowledged that Gibb does not explicitly disclose the projections and corresponding cavities on the second plate (17 *sic*) form at least one connecting passage between discrete and spaced apart projections and corresponding cavities on the first plate (18). In an attempt to remedy this deficiency in Gibb, it is asserted that the separator shown in Figs. 17-19 of Funatsu teaches projections and corresponding cavities on a plate forming at least one connecting passage (58) between discrete and spaced apart projections and corresponding cavities on the first plate (referring specifically to paragraph [0088], lines 8-15).

The Office Action concludes that it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Funatsu, for example, substituting the second plate of Gibb with a separator plate of Funatsu (Funatsu: Fig. 18) so that the projections and corresponding cavities of the second plate (17 *sic*) of modified Gibb form at least one connecting passage between discrete and space apart projections and corresponding cavities on the first plate (18), since such a design had already been demonstrated in the art (Funatsu: Fig. 18) to provide for a cooling water channel within two plates of a separator and one skilled in the art would have had a reasonable expectation of success in doing so.

Applicants respectfully submit that the Office Action fails to set forth a *prima facie* case of obviousness of the claimed invention.

As amended, claim 18 defines, *inter alia*, a separator comprised of first and second conductive plates, "wherein the cavities of the first plate are dissimilar in shape from the cavities of the second plate; wherein the cavities on the first plate are discrete and spaced from one another, and within the first plate form no continuous channel

linking one edge of the plate with another edge of the plate; and wherein the projections and corresponding cavities on the second plate form at least one connecting passage between discrete and spaced apart projections and corresponding cavities on the first plate.

Importantly, Gibb lacks any suggestion for cavities on the first plate that "form no continuous channel linking one edge of the plate with another edge of the plate," as defined by amended claim 18. According to well established legal principles, to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See, for example, MPEP 2143 and *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

The combination proposed in the Office Action - the first plate (18) of Gibb with a second plate formed of a separator 53 of Funatsu – fails to provide the limitation of claim 18 requiring cavities on the first plate that "within the first plate form no continuous channel linking one edge of the plate with another edge of the plate." For at least this reason, the Office Action thus fails to set forth a *prima facie* case of obviousness and the rejection of claims 18, 20-25 and 37 must be withdrawn.

Furthermore, as noted above, withdrawn claims 26, 30, and 33 have been amended in a similar fashion as claim 18. Since all of these claims include the common technical features that define over the prior art, the withdrawal of claims 26-36 should be reversed and the claims allowed.

2. Claims 18, 20-25 and 37 have also been rejected under 35 USC §103 as being unpatentable over Funatsu in view of Gibb.

In this variation of the rejection, it is acknowledged that Funatsu fails to explicitly disclose that the cavities of the first plate are dissimilar in shape from the cavities of the second plate. Gibb then is cited as teaching that the cavities of the first plate should be dissimilar in shape from the cavities of the second plate "in order to ensure structural strength," citing paragraph [0038]. It is concluded that it would be obvious to substitute one of the plates of Funatsu with a plate similar to, for example, the plate 18 taught by Gibb.

Again, the cited references fail to suggest a first plate having cavities that "within the first plate form no continuous channel linking one edge of the plate with another edge of the plate," as defined by amended claim 18. Since all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of obviousness, this rejection of claims 18, 20-25 and 37 must also be withdrawn.

Furthermore, as noted above, withdrawn claims 26, 30, and 33 have been amended in a similar fashion as claim 18. Since all of these claims include the common technical features that define over the prior art, the withdrawal of claims 26-36 should be reversed and the claims allowed.

Conclusion

For all reasons discussed herein, applicants submit that the current application is now in condition for allowance. A timely action to that end is courteously solicited.

If the Examiner would prefer language different from that proposed by applicant, a telephone call to applicant's attorney is requested to expedite prosecution.

Respectfully submitted,



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